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ARE WE ON THE ROAD TO A BALANCED BUDGET? THE BUDGET FOR FISCAL YEAR 1987 AND THE FORECASTING RECORD UNDER THE BUDGET ACT OF 1974

A STAFF STUDY

PREPARED FOR THE USE OF THE

SUBCOMMITTEE ON ECONOMIC RESOURCES, COMPETIVENESS, AND SECURITY ECONOMICS

OF THE

JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

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LETTER OF TRANSMITTAL

FEBRUARY 15, 1986.

Hon. DAVID R. OBEY,
Chairman, Joint Economic Committee,
Congress of the United States, Washington, DC.

DEAR MR. CHAIRMAN: I am pleased to transmit a study prepared for the Subcommittee on Economic Resources, Competitiveness, and Security Economics titled "Are We on the Road to a Balanced Budget? The Budget for Fiscal Year 1987 and the Forecasting Record Under the Budget Act of 1974."

This study, prepared by Paul B. Manchester, staff economist, reviews the accuracy of the forecasts of the deficit and the economy made by the Ford, Carter, and Reagan Administrations over the last decade. It finds that deficit forecasts for the fiscal year in progress have been accurate, but deficits for future fiscal years have been underestimated, with the largest errors in the more distant years. The primary reasons for these underestimates have been the change in fiscal policy in 1981 and the overly optimistic economic forecasts underlying the budget. Economic growth has been overestimated, while interest rates and unemployment have been underestimated. The forecasting record on inflation is mixed.

All of the 11 economic forecasts analyzed have predicted simultaneous declines in unemployment, interest rates, and inflation, but the report points out that there is virtually no historical precedent for such simultaneous progress in all of these areas of the economy. The study concludes with a recommendation that greater attention be paid to the effects of probable cyclical movements in the economy.

Sincerely,

WILLIAM PROXMIRE,
Vice Chairman, Subcommittee on Economic Resources, Competitiveness, and Security Economics.

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ARE WE ON THE ROAD TO A BALANCED BUDGET? THE BUDGET FOR FISCAL YEAR 1987 AND THE FORECASTING RECORD UNDER THE BUDGET ACT OF 1974 *

On February 5, President Reagan submitted his budget for fiscal year 1987 to the Congress. The budget contains forecasts for the economy, receipts, outlays, and the deficit through fiscal year 1991. These are summarized in Table 1.

In appraising the plausibility of these projections, it is useful to examine the accuracy of the economic and budget forecasts made by the Ford, Carter, and Reagan Administrations since the Budget Act of 1974 was passed. The record is not encouraging—it raises serious doubts about whether, under current and proposed policies, we will achieve a balanced budget by fiscal year 1991, as projected by the Administration and required by the Balanced Budget and Emergency Deficit Control Act of 1985 (the Gramm-Rudman-Hollings Amendment, Public Law 99-177). Specifically, the Administration predicts:

(1) A budget deficit of $203 billion for fiscal 1986, the current fiscal year. Over the last decade deficit projections for the fiscal year in progress have been highly accurate—in fact, on average they have overestimated the deficit by $4 billion, or 0.2 percent of GNP.

(2) A budget of $144 billion for fiscal 1987. Over the last decade deficit projections for the upcoming fiscal year have underestimated the deficit by an average of $24 billion, or 0.8 percent of GNP.

(3) A budget deficit of $94 billion for fiscal year 1988. Over the last decade deficit projections for the second ensuing fiscal year have underestimated the deficit by an average of $59 billion, or 1.9 percent of GNP.

(4) A budget deficit of $68 billion for fiscal year 1989. Over the last decade deficit projections for the third ensuing fiscal year have underestimated the deficit by an average of $110 billion, or 3.4 percent of GNP.

(5) A budget deficit of $36 billion for fiscal year 1990. Over the last decade deficit projections for the fourth ensuing fiscal year have underestimated the deficit by an average of $158 billion, or 4.7 percent of GNP.

(6) A budget surplus of $1 billion in fiscal year 1991. Over the last decade deficit projections for the fifth ensuing fiscal year have underestimated the deficit by an average of $212 billion, or 6.2 percent of GNP.

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* This study was prepared by Paul Manchester, Joint Economic Committee Staff Economist.

TABLE 1.—*Selected Economic and Budget Indicators: Forecasts Contained in the Fiscal Year 1987 Budget, Issued February 1986*

[Budget amounts in billions of dollars]

Calendar year	Real GNP (percent change)	91-day Treasury bill rate (percent)	Total unemployment rate (percent) [1]	Consumer Price Index (percent change)
1985	2.3	7.5	7.1	3.5
1986	3.4	7.3	6.7	3.5
1987	4.0	6.5	6.5	4.1
1988	4.0	5.6	6.3	3.7
1989	3.9	4.8	6.1	3.3
1990	3.6	4.3	5.8	2.8
1991	3.5	4.0	5.6	2.1

Fiscal year	Budget receipts [2]	Budget outlays [2]	Budget surplus or deficit (−) [2]
1985	734.1	946.3	−212.3
1986	777.1	979.9	−202.8
1987	850.4	994.0	−143.6
1988	933.2	1,026.8	−93.6
1989	996.1	1,063.6	−67.5
1990	1,058.1	1,093.8	−35.8
1991	1,124.0	1,122.7	1.3

[1] Including Armed Forces stationed in the United States.
[2] Total, including off-budget.

BACKGROUND

Prior to fiscal year 1923, each Federal agency prepared its own budget and submitted it to the Treasury Department, which passed it on to Congress with little review. The Budget and Accounting Act of 1921 first established the requirement that the President submit a comprehensive budget to Congress. It also established the Bureau of the Budget, which was replaced (with expanded responsibilities) by the Office of Management and Budget in 1970.

Comprehensive budgets have been prepared since fiscal year 1923, but specific forecasts of the underlying state of the economy are much more recent. These first appeared in the Economic Report of the President and in the Federal budget documents in the early 1960's, but were presented in much less detail than that currently provided.[1]

The Budget Act of 1974 required that the economic assumptions "such as the rate of inflation, the rate of real economic growth, the unemployment rate, program caseloads, and pay increases" underlying the current services budget for the ensuing fiscal year be sub-

[1] Forecasts of the percentage changes in gross national product (GNP) in current and constant dollars and the implicit price deflator for GNP were made in the annual "Economic Report of the President" as far back as 1962. These forecasts are compared with the actual changes for 1962–80 in "A Review of Government Economic Projections," by Barry Molefsky, Congressional Research Service, Library of Congress, Apr. 23, 1981.

mitted to Congress.[2] In order to provide Congress and the public with helpful information in understanding and assessing the budget estimates and long-range projections, this requirement has been modified in practice in several ways:

(a) The forecasts contain somewhat more detail than the aforementioned items.

(b) Forecasts are presented for the current calendar year and the subsequent five years, not for the ensuing fiscal year only. Thus they correspond to the period for which the President's budget must be presented.

(c) The forecasts are not based on the current services budget, but on the assumption that all of the items in the President's budget are adopted. This serves the useful purpose of distinguishing the budgetary effects of the differences between the current services budget and the President's budget, holding economic conditions constant. The drawback is that there is no explicit projection of the state of the economy under the current services budget, thus there is no forecast of the economic results if the President's budget were not adopted.

Additional details of the economic forecast are required to be published in the Economic Report under the Full Employment and Balanced Growth Act of 1978:

(*a*) Annual "numerical goals for employment and unemployment, production, real income, productivity, and prices" are required for the current and the subsequent four years. (Budget projections and the economic assumptions underlying them extend through a sixth year.)

(*b*) Information about the "apportionment of total national production among its major components (private investment, consumer expenditures, and public outlays)" is required. In practice this requirement has been met by estimating real GNP and five of its components for the current year, but total real GNP only for the subsequent five years. This appears to fall short of the requirements of the amended act, which calls for projections of the components for all years.

The Balanced Budget and Emergency Deficit Control Act of 1985 does not require the Administration to publish any new information about the outlook for the economy or the budget. However, those forecasts are much more important than in the past, because the act requires that the deficits in the budget submitted by the President and the budget resolution passed by Congress not exceed the specified maximum levels for fiscal years 1986–91.

The amounts are as follows: $171.9 billion in fiscal year 1986,[3] $144 billion in fiscal year 1987, $108 billion in fiscal year 1988, $72 billion in fiscal year 1989, $36 billion in fiscal year 1990, and $0 billion in fiscal year 1991.

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[2] The current services budget, presented in Special Analysis A of the budget document, shows the estimated outlays, budget authority, and budget receipts which would be included in the budget if all programs and activities were carried on at the same level as the fiscal year in progress and without policy changes in such programs and activities.

[3] The maximum required spending reduction for fiscal year 1986 is $11.7 billion, which means that the $171.9 billion limit is superseded by the forecast of $203 billion in the President's budget.

Projections of the rate of economic growth, unemployment, and the level of interest rates are crucial to the budget process. If growth is more rapid and unemployment and interest rates lower than projected, in order to meet these targets fiscal policy will not have to be tightened as much as it is in the President's budget. (In the extreme, but unlikely, case no changes in current policies would be required.) On the other hand, if growth is less rapid and unemployment and interest rates higher than forecast, either fiscal policy will have to be tightened more than it is in the President's budget or these targets will have to be modified.[4]

Forecasts of the Budget Deficit, Fiscal Years 1976–91

In January or February of each year the President has submitted his budget to Congress for the ensuing fiscal year, which begins on October 1 and ends on September 30.[5] Thus the fiscal year 1987 budget, covering the period from October 1986 through September 1987, was submitted on February 5.[6] In March 1981 President Reagan submitted major revisions to the fiscal year 1982 budget which had been prepared by President Carter in January. In the analyses below the revised budget submitted by President Reagan has been considered, rather than the proposals made by President Carter.

Budget estimates have been revised frequently, reflecting actions by Congress, changes in the President's program, and revisions in the underlying economic forecast. Specifically, a midsession budget review has been submitted each July or August, with less detailed updates in the spring and, occasionally, in the fall. These revisions have not been included in the analyses below.

Forecasts of the budget deficits for fiscal years 1976–91 are presented in Table 2, with the actual deficits shown for fiscal years 1976–85. For each fiscal year since the Budget Act of 1974 has become fully effective, there have been six forecasts—those made in the calendar years five, four, three, two and one year prior to the fiscal year, and the estimate made in January or February of the fiscal year. These successive estimates of the deficits can be reviewed by reading across each row.

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[4] The act establishes special procedures to allow suspension of the deficit targets for the remainder of the fiscal year in progress or the following fiscal year or both under either of two circumstances:

(*a*) The Congressional Budget Office or the Office of Management and Budget forecasts a decline in real GNP for two consecutive quarters.

(*b*) The Department of Commerce reports that actual real economic growth is less than 1 percent for the two most recent consecutive quarters.

[5] The Balanced Budget and Emergency Deficit Control Act of 1985 requires that in the future the President's budget be submitted on or before the first Monday after Jan. 3.

[6] Fiscal years prior to 1977 began on July 1 and ended on June 30. The 3-month period July–September 1976 is referred to as the transition quarter.

TABLE 2.—*Budget Surplus or Deficit (–) Forecasts, Indicated Number of Years Before the End of the Fiscal Year* [1] [2]

[In billions of dollars]

Fiscal year	5	4	3	2	1	0	Actual [3]	Actual as percent of GNP
1976	NA	NA	NA	NA	–52	–76	–66	–3.9
1977	NA	NA	NA	–31	–43	**–57**	–45	–2.3
1978	NA	NA	–20	–23	**–47**	–62	–49	–2.3
1979	NA	0	10	**–12**	–61	–37	–28	–1.1
1980	25	41	**13**	–38	–29	**–40**	–60	–2.2
1981	76	**26**	9	–1	**–16**	–55	–58	–1.9
1982	**29**	45	38	**5**	–45	–99	–111	–3.5
1983	76	73	**25**	–23	–92	–208	–195	–5.9
1984	106	**82**	1	–83	–189	–184	–175	–4.7
1985	**159**	6	–72	–194	–180	–210	–203	–5.2
1986	28	–66	–148	–177	–178	[4] –203	NA	NA
1987	–58	–142	–180	–168	[4] –144	NA	NA	NA
1988	–117	–152	–149	[4] –94	NA	NA	NA	NA
1989	–124	–113	[4] –68	NA	NA	NA	NA	NA
1990	–89	[4] –36	NA	NA	NA	NA	NA	NA
1991	[4] 1	NA	NA	NA	NA	NA	NA	NA

[1] For example, for fiscal year 1984:
Forecast 5 years earlier (106) made in January 1979.
Forecast 4 years earlier (82) made in January 1980.
Forecast 3 years earlier (1) made in March 1981.
Forecast 2 years earlier (–83) made in February 1982.
Forecast 1 year earlier (–189) made in January 1983.
Forecast 0 years earlier (–184) made in February 1984.

[2] Forecasts above the upper diagonal were made by the Ford Administration in 1975–77; forecasts between the diagonals were made by the Carter Administration in 1978–80; forecasts below the lower diagonal were made by the Reagan Administration in 1981–86. The 1981 forecasts incorporate revisions made by President Reagan after his inauguration.

[3] Data refer to the on-budget deficit as defined prior to the Gramm-Rudman-Hollings Act, enacted in December 1985. This changed the definition of "on-budget."

[4] Data not comparable with earlier estimates for fiscal years 1986–91 because these estimates include off-budget activities.

Source: Office of Management and Budget.

It is obvious that all Administrations have, with a few relatively minor exceptions, greatly underestimated the budget deficits in future fiscal years, with the magnitude of the underestimates greatest for the more distant years. For example, in January 1980 the Carter Administration first forecast a budget surplus of $159 billion for fiscal year 1985. In March 1981 the Reagan Administration revised this sharply downward to a $6 billion surplus. By February 1982 the estimate was a deficit of $72 billion. This was revised upward to a $194 billion deficit in January 1983 and a $210 billion deficit in February 1985. The actual fiscal year 1985 deficit of $203 billion differed from the surplus estimated in January 1980 by $362 billion.

Average underestimates of the budget deficits for fiscal years 1976–85 are summarized in Table 3 and Chart 1. As shown, over this period the deficit projections have consistently been more inaccurate for the more distant years. These deficit underestimates reflect subsequent changes in the Presidents' programs; major differences between the budget proposals submitted by President Ford, Carter, and Reagan; differences between the budgets proposed by

the Presidents and those enacted by Congress; data revisions; overly optimistic economic projections; the impacts of natural phenomena such as hurricanes and unexpectedly good or bad crop yields; and errors in predicting the impacts of economic developments on the budget. In theory it would be possible to determine how much of each of the 50 deficit underestimates (or overestimates) analyzed above is accounted for by each of these seven factors. In practice this would be exceedingly difficult. In the author's opinion the major factors have been the differences between the Carter and Reagan budget proposals, and the use of overly optimistic economic forecasts. The latter is the main subject of the remainder of this study.

TABLE 3.—*Average Underestimates of the Federal Budget Deficit, Fiscal Years 1976–85*

[In billions of dollars, except as indicated]

Years before the fiscal year	Number of forecasts	Average surplus or deficit (–)		Deficit underestimates[1]		
		Estimated	Actual	Average amount[2]	Range	Average percent of GNP
0	[3] 10	–103	–99	–4	–13 to 20	–0.2
1	[3] 10	–75	–99	24	–33 to 103	.8
2	[4] 9	–44	–103	59	9 to 172	1.9
3	[5] 8	0	–110	110	29 to 220	3.4
4	[6] 7	39	–119	158	28 to 268	4.7
5	[7] 6	79	–134	212	85 to 362	6.2

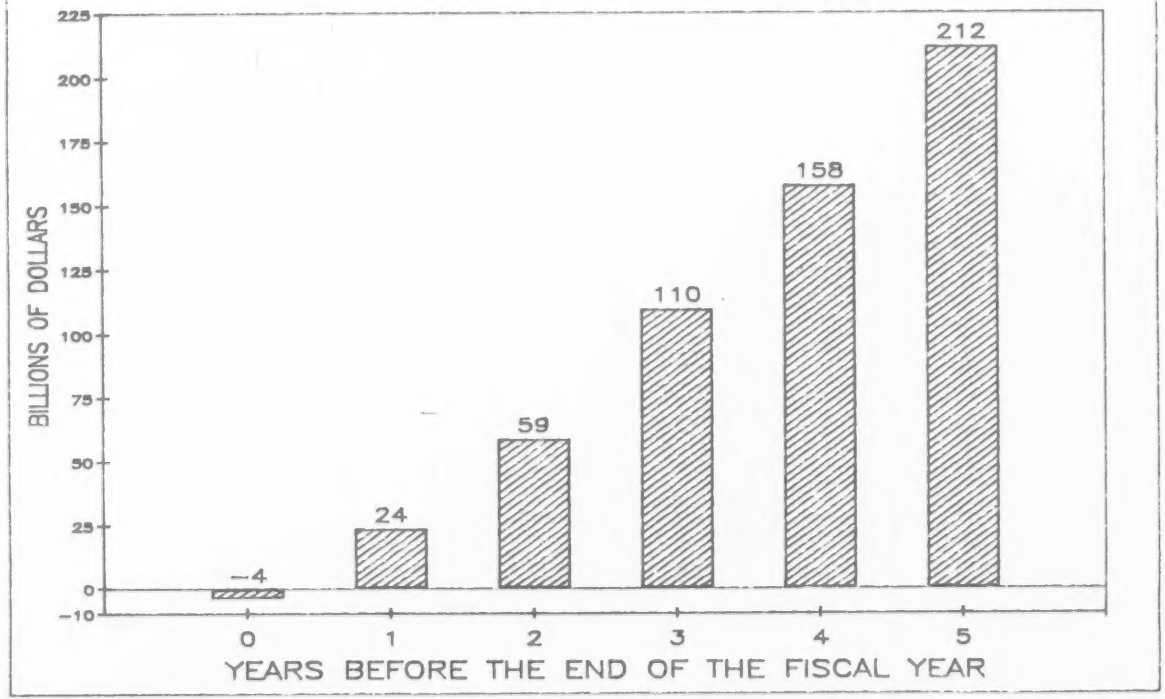
[1] Negative values represent overestimates of the budget deficit.
[2] Some values are not equal to the difference between the two preceding columns due to rounding.
[3] Forecasts for fiscal years 1976–85.
[4] Forecasts for fiscal years 1977–85.
[5] Forecasts for fiscal years 1978–85.
[6] Forecasts for fiscal years 1979–85.
[7] Forecasts for fiscal years 1980–85.

Source: Calculations based on Table 2. For example, there have been six forecasts made five years before the various fiscal years:
(1) The 1975 forecast of a $25 billion surplus in fiscal year 1980. This differed from the actual deficit ($60 billion) by $85 billion, which was 3.2 percent of fiscal year 1980 GNP.
(2) The 1976 forecast of a $76 billion surplus in fiscal year 1981. This differed from the actual deficit ($58 billion) by $134 billion, which was 4.5 percent of fiscal year 1981 GNP.
(3) The 1977 forecast of a $29 billion surplus in fiscal year 1982. This differed from the actual deficit ($111 billion) by $140 billion, which was 4.5 percent of fiscal year 1982 GNP.
(4) The 1978 forecast of a $76 billion surplus in fiscal year 1983. This differed from the actual deficit ($195 billion) by $271 billion, which was 8.2 percent of fiscal year 1983 GNP.
(5) The 1979 forecast of a $106 billion surplus in fiscal year 1984. This differed from the actual deficit ($175 billion) by $281 billion, which was 7.6 percent of fiscal year 1984 GNP.
(6) The 1980 forecast of a $159 billion surplus in fiscal year 1985. This differed from the actual deficit ($203 billion) by $362 billion, which was 9.2 percent of fiscal year 1985 GNP.
The average of the six underestimates ($85 billion, $134 billion, $140 billion, $271 billion, $281 billion, and $362 billion) is $212 billion. The average of the six underestimates expressed as a percentage of fiscal year GNP (3.2 percent, 4.5 percent, 4.5 percent, 8.2 percent, 7.6 percent, and 9.2 percent) is 6.2 percent.

CHART 1

AVERAGE UNDERESTIMATES OF THE FEDERAL BUDGET DEFICIT

FY 1976–1985



Economic Forecasts Underlying the Budget Proposals for Fiscal Years 1976–85

Key elements of the economic projections underlying the budget proposals for fiscal year 1976–86 are summarized in Tables 4 through 7. Data on the actual performance of the economy for the full forecast period are available only for the forecasts made in 1975–80. For the more recent projections, actual data are available only through 1985. Thus at this time the accuracy of the forecasts made since 1980 cannot be compared with the accuracy of forecasts made prior to 1981. In general, forecasts over short periods have been more accurate than those over larger periods—thus the more recent forecasts may not eventually prove to be more accurate than the earlier forecasts.

Projections of average real growth rates are compared with the actual record in Table 4.[7] The forecasts made by the Ford Administration significantly overestimated the growth rates of the late 1970's, even though this period represented the longest peacetime expansion in American history. The long-term growth expectations of the Carter Administration were more moderate, but they also proved to be too optimistic, failing to foresee the recessions of 1980 and 1981–82. The Reagan projection of March 1981 provided the basis for the promise of "sure and predictable" movement toward a balanced budget. It and the 1982 forecast were too high, because they missed the 1981–82 recession. In 1983 the Administration underestimated the strength of the recovery, but the estimates made in 1984 and 1985 have again proven to be too optimistic. In summary, based on data through 1985, 10 of the 11 projections (including all eight for which four or more years of actual data are available) have overestimated the average growth rate in the economy over the forecast period. The average overestimate was 1.8 percent.

Table 4.—*Forecasts of Real GNP Growth*

Fiscal year budget	Date issued	Years covered	Average rate of real GNP growth (percent)		
			Predicted	Actual	Difference
1976	2/75	1975–80	4.4	2.6	1.8
1977	1/76	1976–81	6.0	3.2	2.8
1978	1/77	1977–82	4.9	1.9	3.0
1979	1/78	1978–83	4.7	1.7	3.0
1980	1/79	1979–84	3.8	1.9	1.9
1981	1/80	1980–85	3.1	1.9	1.2
1982	[1] 3/81	[2] 1981–85	3.8	2.3	1.5
1983	1/82	[2] 1982–85	3.8	2.4	1.4
1984	1/83	[2] 1983–85	3.1	4.1	−1.0
1985	2/84	[2] 1984–85	4.7	4.5	.2
1986	2/85	[2] 1985	3.9	2.3	1.6

[1] Budget revisions for fiscal year 1982, issued by the Reagan Administration in March 1981.
[2] Forecasts extended beyond 1985, but they are not included due to the lack of post-1985 data on the actual performance of the economy.

Note.—In general, forecasts over short periods have been more accurate than those over longer periods. Thus, the forecasts made since 1980 may not be more accurate than those made before 1981, because data on the performance of the economy after 1985 are not yet available.

[7] The data on real growth incorporate the GNP benchmark revisions of December 1985.

Forecasts of the interest rate on 91-day Treasury bills are compared with the actual averages in Table 5. The Ford and Carter Administrations both significantly underestimated rates over the forecast period. The first Reagan Administration forecast also underestimated the 1981–85 average T-bill rate. More recent projections have been more accurate, but this may be because actual data are available for a shorter period. Overall, 9 of the 11 forecasts have underestimated the 3-month Treasury bill rate. The average underestimate was 2.7 percentage points.

TABLE 5.—*Forecasts of the Treasury Bill Rate*

Fiscal year budget	Date issued	Years covered	Average 91-day Treasury bill rate (percent)		
			Predicted	Actual	Difference
1976	2/75	1975–80	5.9	7.5	−1.6
1977	1/76	1976–81	5.3	8.8	−3.5
1978	1/77	1977–82	4.4	9.8	−5.4
1979	1/78	1978–83	5.9	10.4	−4.5
1980	1/79	1979–84	6.6	10.7	−4.1
1981	1/80	1980–85	8.2	10.3	−2.1
1982	[1] 3/81	[2]1981–85	8.2	10.1	−1.9
1983	1/82	[2]1982–85	10.1	9.1	1.0
1984	1/83	[2]1983–85	7.8	8.6	−.8
1985	2/84	[2]1984–85	8.1	8.5	−.4
1986	2/85	[2]1985	8.1	7.5	.6

[1] Budget revisions for fiscal year 1982, issued by the Reagan Administration in March 1981.
[2] Forecasts extended beyond 1985, but they are not included due to the lack of post-1985 data on the actual performance of the economy.

NOTE.—In general, forecasts over short periods have been more accurate than those over longer periods. Thus, the forecasts made since 1980 may not be more accurate than those made before 1981, because data on the performance of the economy after 1985 are not yet available.

The 1975 forecast for the average unemployment rate was quite accurate—the overestimate of real GNP growth was largely offset by an overestimate of productivity growth. But, as shown in Table 6, the overestimates of real growth made in 1976–82 resulted in underestimates of the unemployment rate. The 1983 forecast of a weak recovery led to an overestimate of the average unemployment rate for 1983–85. Of the 11 forecasts made in 1975–85, nine underestimated the average unemployment rate. The average underestimate was 1.2 percentage points.

TABLE 6.—*Forecasts of the Unemployment Rate*

Fiscal year budget	Date issued	Years covered	Average unemployment rate (percent)[1]		
			Predicted	Actual	Difference
1976	2/75	1975–80	7.0	7.1	−0.1
1977	1/76	1976–81	6.2	6.9	−.7
1978	1/77	1977–82	5.7	7.2	−1.5
1979	1/78	1978–83	5.2	7.7	−2.5
1980	1/79	1979–84	5.4	7.9	−2.5
1981	1/80	1980–85	6.1	8.2	−2.1
1982	[2] 3/81	[3] 1981–85	6.8	8.3	−1.5
1983	1/82	[3] 1982–85	7.6	8.5	−.9
1984	1/83	[3] 1983–85	9.8	8.0	1.8
1985	2/84	[3] 1984–85	7.7	7.3	.4
1986	2/85	[3] 1985	7.0	7.1	−.1

[1] The civilian unemployment rate was forecast in the budgets for fiscal years 1976–83; the total unemployment rate, including the Armed Forces stationed in the United States, was forecast in the budgets for fiscal years 1984–86.

[2] Budget revisions for fiscal year 1982, issued by the Reagan Administration in March 1981.

[3] Forecasts extended beyond 1985, but they are not included due to the lack of post-1985 data on the actual performance of the economy.

NOTE.—In general, forecasts over short periods have been more accurate than those over longer periods. Thus, the forecasts made since 1980 may not be more accurate than those made before 1981, because data on the performance of the economy after 1985 are not yet available.

The record on inflation, shown in Table 7, is mixed. All three Administrations have predicted gradual to moderate declines in the rate of inflation over the forecast periods. This led to under estimates of inflation when prices rose sharply in the late 1970's, and to overestimates when prices decelerated in the 1981–82 recession. The conclusion to be drawn is that inflation is more subject to rapid changes in either direction than forecasters have believed.

TABLE 7.—*Forecasts of the Consumer Price Index (CPI)*

Fiscal year budget	Date issued	Years covered	Average rate of increase in the CPI (percent)		
			Predicted	Actual	Difference
1976	2/75	1975–80	6.5	8.9	−2.4
1977	1/76	1976–81	5.2	9.1	−3.9
1978	1/77	1977–82	4.5	9.2	−4.7
1979	1/78	1978–83	5.3	8.6	−3.3
1980	1/79	1979–84	5.2	8.1	−2.9
1981	1/80	1980–85	8.2	6.8	1.4
1982	[1] 3/81	[2] 1981–85	7.1	5.5	1.6
1983	1/82	[2] 1982–85	5.7	4.3	1.4
1984	1/83	[2] 1983–85	4.7	3.7	1.0
1985	2/84	[2] 1984–85	4.5	3.9	.6
1986	2/85	[2] 1985	4.1	3.6	.5

[1] Budget revisions for fiscal year 1982, issued by the Reagan Administration in March 1981.

[2] Forecasts extended beyond 1985, but they are not included due to the lack of post-1985 data on the actual performance of the economy.

NOTE.—In general, forecasts over short periods have been more accurate than those over longer periods. Thus, the forecasts made since 1980 may not be more accurate than those made before 1981, because data on the performance of the economy after 1985 are not yet available.

To summarize, predictions of growth, interest rates, and unemployment have been much too optimistic; the record on inflation forecasts is mixed.

Alternative Forecasting Methods

The 11 economic forecasts made in 1975–85 differ in the degree of their relative optimism, but they also have certain similarities. For the first year predicted in most cases it was acknowledged that interest rates, unemployment, or inflation could exceed the average levels for the preceding year. But in all cases it was believed that there would then be declines over the next five years in each of these three key economic indicators.[8] As shown in Chart 2, the average estimates for the first and sixth (final) years predicted, and the corresponding decreases over the five-year forecast periods are:

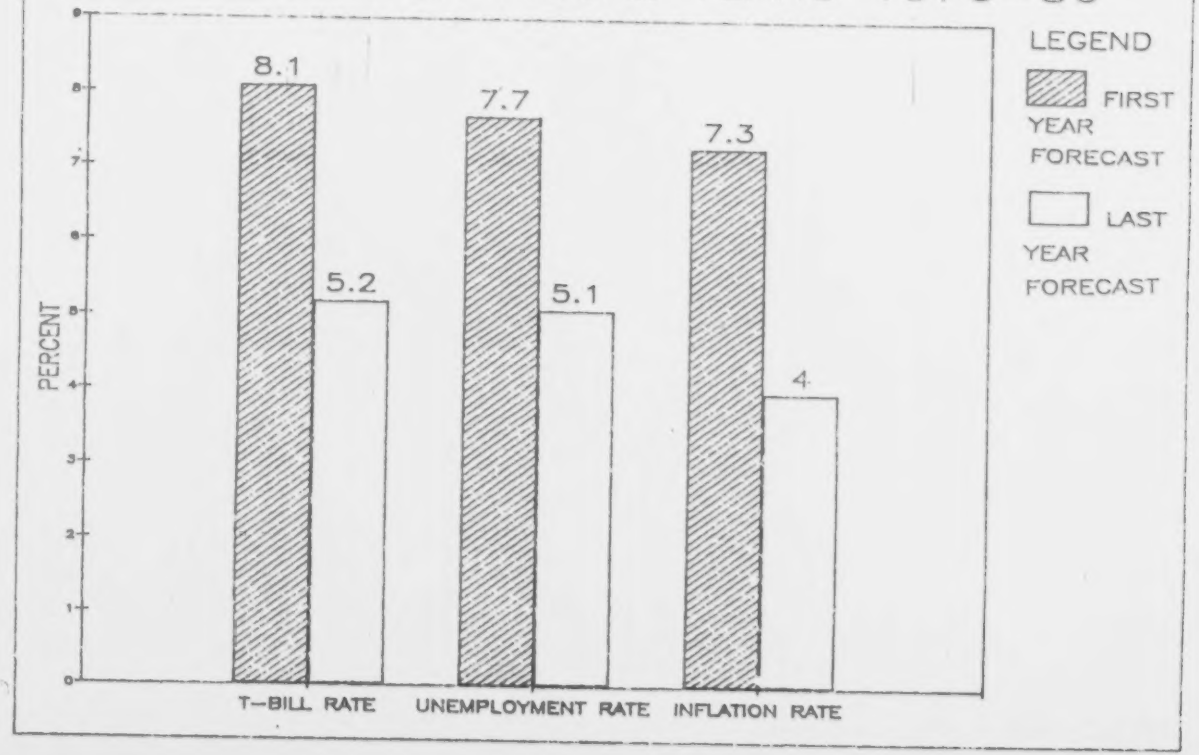
[In percent]

	Average level forecast		Average decline over 5 years
	First year	Sixth year	
Treasury bill rate	8.1	5.2	2.9
Unemployment rate	7.7	5.1	2.6
Inflation (CPI) rate	7.3	4.0	3.3

[8] The only exception was the 1977 forecast—a steady interest rate was predicted.

CHART 2

AVERAGE FORECASTS: BUDGETS FOR FISCAL YEARS 1976--86



Simultaneous progress in all areas of the economy is a desirable national goal, but in practice it is virtually unprecedented. Data on interest rates, unemployment, and inflation in the United States are available for all years back to 1900. In 96 percent of these 81 five-year spans (i.e., those periods ending in 1905 through 1985), at the end of the period interest rates, unemployment, or inflation (or several of these measures) exceeded the level at the beginning of the period. There is no precedent for the pattern in each of the forecasts—steady growth and simultaneously declining unemployment, interest rates, and inflation.

With one exception (the January 1980 forecast) each prediction has been based on the assumption that there would be no recession (defined as a decline in real GNP for at least two consecutive quarters) during the forecast period.[9] Such a pattern of steady growth would be contrary to the history of American business cycles, summarized in Table 8. Since 1854 the average length of an expansion in peacetime has been only 27 months, though the average since 1946 has been 34 months; the longest was 58 months, from 1975 to 1980. Wartime expansions since 1854 have lasted an average of 64 months (75 months since 1946), with the longest lasting 106 months, from 1961 to 1969.

TABLE 8.—*Duration of the 30 Economic Expansions in the United States, 1854–1981*

Duration (months)	Number of expansions		
	Peacetime	Wartime	Total
1 to 12	3	0	3
13 to 24	11	0	11
25 to 36	7	0	7
37 to 48	[1] 2	[2] 3	5
49 to 60	[3] 2	0	2
61 to 84	0	[4] 1	1
85 to 108	0	[5] 1	1
Total	25	5	30
	Mean duration in months		
Period	Peacetime	Wartime	Total
1854–1918	24	45	27
1919–45	26	80	35
1946–81	34	75	45
Total	27	64	33

[1] 1945–48 and 1954–57.
[2] Civil War, World War I, and Korean war.
[3] 1933–37 and 1975–80.
[4] World War II.
[5] Vietnam war.

Source: Department of Commerce, *Handbook of Cyclical Indicators*, 1984, p. 178, as determined by the National Bureau of Economic Research.

[9] In February 1975 the economy was in a recession, which was projected to continue until the middle of the year.

Forecasts in general, then, have assumed that the economic future would be very different from the past, in that progress would be made simultaneously in all areas of the economy, and that there would be no economic downturn (or spike in inflation or interest rates) in the period covered by the forecast. Both assumptions have been wrong; thus the economic forecasts and the budget estimates based on them have been overly optimistic. Alternative methods would reduce these biases in the official economic forecasts somewhat.

Penner Proposal.—In a 1981 article Rudolph Penner pointed out that "rosy projections dull us into being too complacent regarding future budget trends."[10] He added that, given the major impacts on the budget of minor changes in the economy, "The temptation to fudge the numbers has become very strong," but concluded that "it is remarkable that budget and economic forecasts are as accurate as they are."

Short-term economic forecasts have been more accurate than longer range projections. In light of this, Penner proposed acceptance of the Administration's forecasts for the current year and the subsequent year, but he suggested that extrapolations for the four succeeding years be arbitrarily based on the record of the economy over the preceding five years. That is, in the current situation for 1988–91 the Treasury bill rate and the annual growth rates for real GNP and inflation would be equal to the averages for 1981–85; the unemployment rate would be held at the 1987 level. This would yield a pessimistic annual forecast for 1988–91: real growth of 2.3 percent, inflation of 5.5 percent, a Treasury bill rate of 10.1 percent, and unemployment of 6.5 percent.

The Penner proposal would have several drawbacks. In the current situation, the 1988–91 real growth would probably be insufficient to prevent a rise in unemployment, thus the forecast could be self-contradictory. And the method would imply a sudden jump upward in both inflation and interest rates in 1988, despite the slowdown in growth (though such a pattern could occur from a supply-side shock—e.g., a rise in oil prices). Better results would be obtained by using a longer base period (10 years, rather than 5), because this would reduce the likelihood that the data would be dominated by a prolonged period of recession or inflation. In general, though, forecasts which do not assume steady progress every year in each area of the economy would be more realistic than projections which do predict steady reductions in unemployment, interest rates, and inflation.

Cyclical Forecast.—As indicated in Table 8, steady growth has been infrequent in American economic history. Rather, we have experienced a succession of business cycles of varying magnitude and duration. This study does not attempt to determine whether or not such cycles are inevitable, but it is clear that medium and longer range forecasts that fail to incorporate any cyclical elements portray a future that is very different from the past.

Even though history suggests that cyclical forces will recur at some point in the future, it is difficult, if not impossible, to predict

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[10] Rudolph Penner, "Budget Assumptions and Budget Outcomes," *The AEI Economist*, August 1981.

the timing or magnitude of these forces. But forecasts based on the assumption of a reasonable, though necessarily somewhat arbitrary, degree of cyclical behavior in the long run will be more accurate than those based on the assumptions of steady growth and annual decline in unemployment, inflation, and interest rates. This is the rationale underlying the cyclical projections developed by Data Resources, Inc. (DRI), which are published quarterly in the *Data Resources U.S. Long-Term Review.* In the most recent such forecast, following a "growth recession" (increase in production insufficient to prevent a rise in the unemployment rate) in 1986, DRI predicts renewed growth in 1987–89, followed by a downturn and rising unemployment in 1990–91. A four-year cycle of alternating expansion and recession is then foreseen for the next 20 years. Cyclical variations in inflation and interest rates are also incorporated into this projection.

DRI's cyclical forecast differs significantly from their corresponding trend forecast in certain years—for example, in 1990 inflation and the unemployment rate are both approximately 1 percentage point higher, and the Federal budget deficit is more than $50 billion greater. The differences are much greater between DRI's cyclical forecast and the Administration's estimates, because DRI's trend forecast is itself significantly less optimistic than the latter.

It is theoretically possible that the average growth rate over the 1986–91 period could equal the average rate predicted by the Administration even if there were an economic contraction before 1992. For example, if 5 percent increases in real GNP in 1987 and 1988 were followed by a 2 percent decline in 1989 and 5.6 percent growth in 1990 and 1991, the average growth rate for 1987–91 would be 3.7 percent, and the level of real GNP at the end of 1991 would be the same as it would be under a steady 4 percent growth path. But there are a number of important ways in which such a cyclical path would *not* have the same economic effects as a mathematically equivalent steady growth path:

(1) Acceleration in price and wage growth during periods of rapid expansion may more than offset deceleration in periods of economic contraction.[11] If so, the average inflation rate will be higher in a period of cyclical instability than in a period of steady growth. This would lead to larger budget deficits, because (since the advent of indexing of the personal income tax in 1985) higher inflation leads to increases in outlays which exceed the gains in revenues.

(2) A more variable inflation rate creates more uncertainty in financial markets and leads to average interest rates (in both nominal and real terms) higher than those which would occur in a period of steady growth. This "uncertainty premium" is especially important in longer term interest rates.

(3) A higher average real interest rate discourages spending for capital goods, housing, and consumer durables, thus the shares of these components of GNP will be lower than they would be under steady growth.

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[11] See, for example, James Tobin, "Inflation," in the *Encyclopedia of Economics,* 1982, p. 518.

(4) Aggregate supply depends on the size of the capital stock and the labor force, and on the availability of energy, raw materials, and technology. Cyclical instability and higher average interest rates discourage capital spending (and the resultant embodied technological change) and investment in energy and raw material development, and thus they reduce the level of potential GNP. Such effects will be very significant if the instability persists for an extended period of time.[12]

(5) Frictional unemployment is (by definition) much more significant in periods of instability because various sectors of the economy expand and decline more rapidly than in a period of steady growth. As a result, the overall unemployment rate will be higher than it would be under uniform expansion.

(6) Government interest payments are greater with high interest rates than with lower rates, and outlays for some programs (such as unemployment compensation and aid to farmers) are greater in a period with a variable unemployment rate than in one with a constant rate at the same average level. Thus average budget deficits would be higher in a period with stronger cyclical movements.

One measure of the effects of cyclical instability on the performance of the economy over time may be obtained by comparing the DRI trend and cyclical forecasts between 1985 and 2000. Average annual real growth is about 0.2 percent lower, and the unemployment rate about 0.3 percent higher, under the cyclical projection; the average rate of inflation and the 3-month Treasury bill rate are both nearly 1 percentage point higher.

Cyclically Adjusted Trend Forecast.—It is doubtful that any Administration would adopt an explicit cyclical forecast such as that discussed in the preceding section. Although it could be emphasized that the cyclical swings in such a projection were based on previous experience, and did not represent a specific forecast of a recession (or a spike in inflation or interest rates) at a certain point in time, there might be a considerable amount of public confusion and concern.

The best feasible approach would seem to involve:

(1) Development of a realistic underlying trend forecast.

(2) Consideration of the cyclical movements which might occur, based on the performance of the economy at similar stages in previous business cycles.

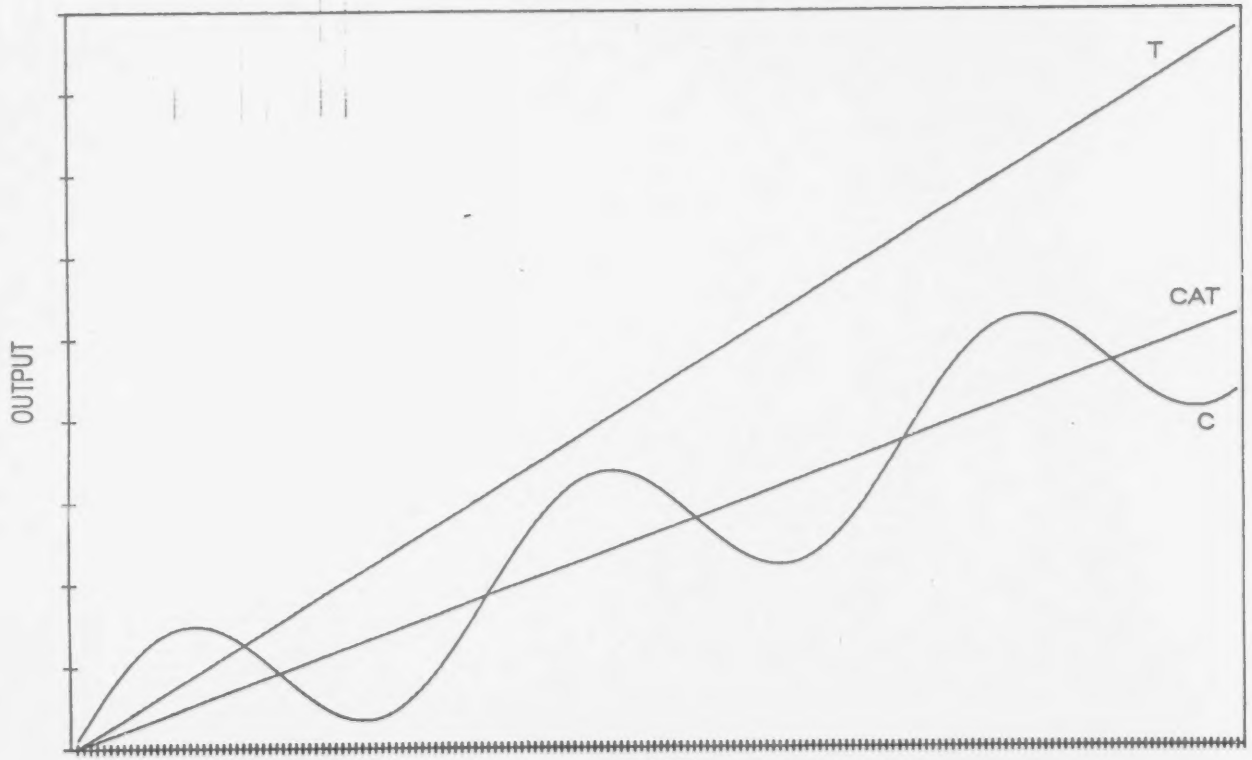
(3) Adjustment of the trend estimates for the effects over the forecast period of these cyclical movements. This would yield a "cyclically adjusted trend" forecast. For example, if the DRI analysis is correct, over the next 15 years for each year this would involve reducing the trend rate of real growth by about 0.2 percent, and raising both the inflation and short-term interest rates by nearly 1 percent. In practice, cyclical effects could be somewhat larger than this.

A schematic diagram comparing a trend forecast, an explicit cyclical forecast, and a "cyclically adjusted trend" forecast is shown in Chart 3. In the long run, a "cyclically adjusted trend" forecast

[12] DRI estimates that by the year 2000 the capital stock would be 4 percent smaller under their cyclical pattern for the economy than it would be under their trend projection.

should be more accurate than past trend forecasts, which assumed that there would be no cyclical movements, and, as a result, have been overly optimistic.

CHART 3
SCHEMATIC DIAGRAM OF VARIOUS TYPES
OF ECONOMIC FORECASTS



T:TREND FORECAST, C:CYCLICAL FORECAST, CAT:CYCLICALLY ADJUSTED TREND FORECAST